

ABSTRACT

Combustion variables are diagnosed using sensors to measure turbulence in the post-flame zone as well as in the flame envelope of a combustor. Output signals from the sensors are processed and a set of statistical functions are calculated which are correlated 5 with specific combustion variables, such as the concentration of unburned carbon in fly ash. A special sensor mounting box provides reliable long-term operation in harsh combustor environment, without a supply of cooling or protective air flow.